

The relationship between dental students' perceptions of their educational environment and their life satisfaction and psychological resilience

 Katibe Tuğçe Temur¹,  Serra Kutlu Katırcıoğlu²

¹Department of Oral and Maxillofacial Radiology, Faculty of Dentistry, Niğde Ömer Halisdemir University, Niğde, Türkiye

²Department of Restorative Dentistry, Faculty of Dentistry, Niğde Ömer Halisdemir University, Niğde, Türkiye

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Corresponding Author: Katibe Tuğçe Temur, tugce.uzmez@hotmail.com

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ABSTRACT

Aims: Students' positive perceptions of the learning environment increase learning efficiency by contributing to increased participation. The purpose of this study is to examine the relationship between students' perceptions of the educational environment and life satisfaction and psychological resilience.

Methods: As part of the research, students were asked questions including age, gender, parents' health status, education level, number of siblings, family income level, systemic diseases, if any, and their impressions of the faculty. In addition, life satisfaction and psychological resilience scales were administered face-to-face. Chi-square and Kruskal-Wallis tests were used to analyse the data. The significance level was determined as $p < 0.05$.

Results: A majority of undergraduate students (90.8%) reported positive initial impressions of their educational institutions. Additionally, a considerable proportion (93.4%) indicated satisfaction with the physical infrastructure, including the number of classrooms and laboratories. While 68.4% of respondents indicated that the intensity and cost of the educational process was negative, 77.6% reported that dental education was stressful. The psychological resilience of the students was examined, and it was found that 44 (57.8%) exhibited low resilience, 23 (30.2%) exhibited medium resilience, and 9 (11.8%) exhibited high resilience. In terms of life satisfaction, 26 (34.2%) of the participants were found to be at a medium level, 13 (17.1%) at a high level, and 3 (3.9%) at a very high level. Nevertheless, 36 (47.3%) of the participants exhibited a low level of life satisfaction.

Conclusion: Despite the generally positive perceptions of the faculty held by students, they perceive the cost of dentistry education as high and the stress associated with it as considerable. Given that students' life satisfaction is low, and their psychological resilience is moderate to weak, it is necessary to review educational programmes and psychological support systems.

Keywords: Dentistry, education, psychology

INTRODUCTION

The concept of student learning has been the subject of research for many years. These factors are generally classified as personal/psychological factors (e.g. student age, intelligence, personality, previous experience) or relational/contextual factors (e.g. perceived quality of teaching and assessment, perceived workload, learning methods, participation).¹ Positive perceptions of the learning environment increase participation and make learning more effective. Similarly, increased participation promotes better learning outcomes, which motivates students to continue to participate.² It has been shown that there is a relationship between students' perceptions of education, their satisfaction with the educational environment, perceived well-being, aspirations and academic success.^{3,4} It is widely accepted that an unhealthy educational environment has a negative impact

on students' performance and emotional state, leading to ineffective engagement and poor learning outcomes.^{5,6} On the other hand, the learning process of university students is a complex process resulting from the interactions between instructors, students' individual characteristics and learning domains.⁷

The concept of quality of life is associated with positive elements such as happiness, success, wealth, health, and satisfaction. Quality of life also affects individuals' overall life satisfaction, emotional well-being, and functionality.⁸ Life satisfaction is a cognitive or judgmental process in which individuals evaluate their quality of life based on their chosen criteria.⁹ Studies on life satisfaction are becoming increasingly common due to the use of scales in languages



other than those in which they were developed. It has been observed that such studies contribute to the diversification of research data and are employed in comparative studies between cultural and ethnic groups.¹⁰

Psychological resilience is a concept of significant interest in the field of behavioural sciences. It is defined as a personality trait that facilitates coping with stress and combating adverse events.¹¹ From an environmental perspective, psychological resilience examines the various impact areas of challenges and threats encountered throughout an individual's life.¹² Those with high levels of psychological resilience tend to be emotionally attached to their jobs and daily activities, which adds meaning to their lives. Such individuals demonstrate greater confidence in their capacity to control their lives, a sense of trust in their ability to effect positive change, and a perception of themselves as the agents of their own lives. They perceive unexpected changes as opportunities for growth.¹³ A variety of assessment tools are available for measuring psychological resilience, including the brief resilience coping scale^{14,15} and the Connor-Davidson resilience scale.¹⁶

It was deemed valuable to investigate the factors that may be related to students' expectations and their perceptions of the current situation, as these could impact their academic success. The aim of this study was to assess dental students' perceptions of education and their potential relationships with life satisfaction and psychological resilience.

The null hypothesis for this study is that there is no statistically significant difference between dental students' perceptions of education and their life satisfaction and psychological resilience.

METHODS

The research was conducted with voluntary students from the Faculty of Dentistry at Niğde Ömer Halisdemir University during the 2023-2024 academic year. Prior to the commencement of the research, the Non-Interventional Clinical Research Ethics Committee of Niğde Ömer Halisdemir University Faculty of Medicine (Date: 14.12.2023 Decision No: 2023/104) granted the necessary ethical approval. The participants were informed about the study and provided with an opportunity to consent to their participation. The research questions and the life satisfaction and psychological resilience scales were administered in person. The survey instrument, which solicited opinions on the educational environment, was developed by revising research questions from the literature.¹⁷ The questionnaire comprised seven sections, each addressing a specific topic. These were: age, gender, the survival status of parents, parental education levels, number of siblings, family income levels, and impressions of the faculty.

Furthermore, participants completed a five-item life satisfaction assessment and a four-item brief version of the psychological resilience scale.

In the life satisfaction scale, the values 1, 2, 3, 4, 5, 6, and 7 represent, respectively, the following levels of suitability: not at all suitable, not suitable, somewhat unsuitable, neither suitable nor unsuitable, somewhat suitable, suitable, and very suitable.¹⁸

The total score is calculated for the life satisfaction assessment. The scores are categorised as follows: The

participants were then classified according to their scores on the aforementioned scale. Those who scored between 31 and 35 points were classified as having 'very high life satisfaction'. A score between 26 and 30 points indicates "high life satisfaction". The "moderate life satisfaction" category is defined by a score between 21 and 25 points. A score of 20 points or less indicates "low life satisfaction".¹⁸

The total score on the psychological resilience scale is categorised as follows: 4-13 indicates low resilience, 14-16 indicates moderate resilience, and 17-20 indicates high resilience.¹⁵

Furthermore, students were asked to provide their opinions about dental education and the faculty in general. Their responses were recorded as either "yes" or "no".

My initial impression of the faculty is quite positive.

The physical structure and number of classrooms and laboratories are sufficient for the current student population.

The faculty building is of an antiquated design and is not conducive to the modern educational environment.

The student affairs office at the faculty is severely lacking in both resources and efficiency.

The academic life at the dental faculty is perceived to be both arduous and expensive.

To what extent do you consider dental education to be a stressful experience?

Statistical Analysis

The statistical analysis was conducted using the Jamovi statistical software (Version: 2.3.28). Descriptive statistics were employed. Categorical data were subjected to a chi-square test for comparison. The Kruskal-Wallis test was employed for the purpose of comparing ordinal data and categorical variables. The significance level was set at $p < 0.05$.

RESULTS

The results of the research, conducted with the participation of 76 students, indicate that the average age of the students was 19.4 years old, with a standard deviation of 1.3 years. In terms of gender distribution, the study involved 42 female and 34 male students. Upon examination of the educational attainment of the students' mothers, it was found that 34.2% (26) had obtained at least a bachelor's degree. It was observed that all participants' mothers were alive at the time of the study. The education level of fathers was also evaluated, with the result that 36.8% (28) of the students' fathers had an undergraduate or higher education. It was determined that 98.7% (75) of the fathers were alive. The mean number of siblings was calculated to be 2.4, with a standard deviation of 1.4. Upon evaluation of family income, it was determined that 69.7% of the participants were from middle-income families. It was determined that 93.4% of the participants did not have any systemic diseases (Table 1).

The results of the research indicated that when examining the psychological resilience levels of the participating students, 57.8% (44) exhibited low resilience, 30.2% (23) demonstrated moderate resilience, and 11.8% (9) exhibited high resilience. In terms of life satisfaction, the results indicated that 34.2%


Table 1. Analysis of various demographic and socioeconomic characteristics among students

Characteristic	Value
Overall (n=76)	
Age	
Mean (SD)	19.4 (1.3)
Range	17.0-23.0
Gender	
Female	42 (55.3%)
Male	34 (44.7%)
Mother's education	
None	3 (3.9%)
Primary school	19 (25.0%)
Middle school	7 (9.2%)
High school	21 (27.6%)
University	26 (34.2%)
Is mother alive?	
Yes	76 (100.0%)
Father's education	
None	1 (1.3%)
Primary school	11 (14.5%)
Middle school	10 (13.2%)
High school	26 (34.2%)
University	28 (36.8%)
Number of siblings	
Mean (SD)	2.4 (1.4)
Range	0.0-8.0
Is father alive?	
Yes	75 (98.7%)
No	1 (1.3%)
Family income level	
Low	15 (19.7%)
Medium	53 (69.7%)
High	8 (10.5%)
Systemic disease	
None	71 (93.4%)
Ankylosing spondylitis	1 (1.3%)
Asthma	2 (2.6%)
Myopia	1 (1.3%)
Type 1 diabetes	1 (1.3%)

SD: Standart deviation

(26) of the participants exhibited moderate life satisfaction, 17.1% (13) exhibited high life satisfaction, and 3.9% (3) exhibited very high life satisfaction. Nevertheless, it was established that 47.3% (36) of the participants exhibited low life satisfaction (Figure).

The statistical analysis revealed no significant correlation between the variables of gender, parental education level, health status, family income level, number of siblings, and life satisfaction with psychological resilience (Table 2, 3). A total of 90.8% of the faculty students indicated that their initial perceptions of the institution were positive. Furthermore, 93.4% of the students indicated that the physical structure and number of classrooms and laboratories were sufficient.

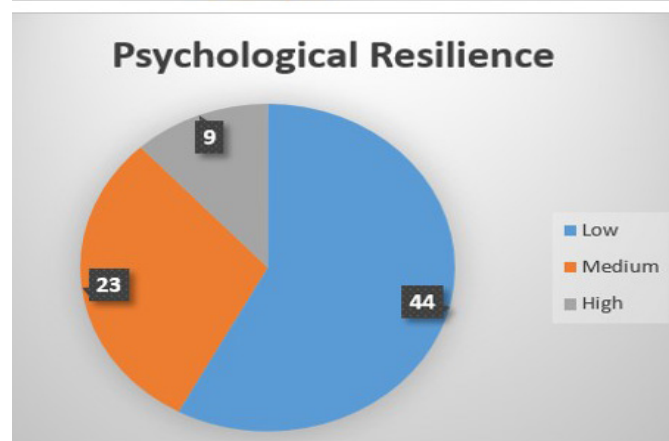
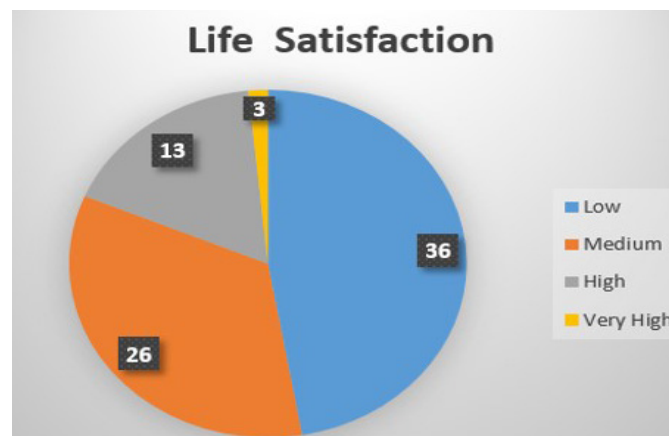


Figure. Students' scores on the psychological resilience scale and students' life satisfaction scale scores

A total of 96.1% of students indicated that the faculty building met modern standards. Nevertheless, 10.5% of the students indicated that the student affairs office was inadequate. The proportion of students who found the educational process both intensive and costly was 68.4%, while the proportion of those who found dental education stressful was 77.6% (Table 4). No correlation was observed between dental education stress and life satisfaction or psychological resilience ($p=0.19$ and $p=0.131$) (Table 2, 3).

DISCUSSION

It can be argued that students' perceptions of the educational environment have a significant impact on their personal development, social well-being, and future professional success. A number of studies in the literature have evaluated the perceptions and satisfaction of dental students regarding their educational environments in different countries.¹⁹⁻²³ In some of these studies, the Dundee ready education environment measure (DREEM) scale has been employed. The scale assesses students' perceptions of learning, perceptions of teachers, academic self-perceptions, perceptions of atmosphere, and social self-perceptions.¹⁹⁻²²

Some researchers have examined similar topics using different approaches and methodologies.^{23,24} Furthermore, the educational perceptions of students from different disciplines, including nursing and medical students, have been examined.^{25,26} This study employed a seven-question survey to evaluate the educational environment perceptions of dental students.

The findings indicated that 44 students exhibited low levels of psychological resilience, 23 exhibited moderate levels,

**Table 2. Analysis of various demographic and socioeconomic characteristics among students**

Characteristic	Low	Medium	High	Very high	p-value
Gender					0.4481¹
Female (n=42)	17.0 (40.5%)	14.0 (33.3%)	8.0 (19.0%)	3.0 (7.1%)	
Male (n=34)	16.0 (47.1%)	12.0 (35.3%)	6.0 (17.6%)	0.0 (0.0%)	
Mother's education					0.7811¹
None (n=3)	1.0 (33.3%)	2.0 (66.7%)	0.0 (0.0%)	0.0 (0.0%)	
Primary school (n=19)	10.0 (52.6%)	7.0 (36.8%)	2.0 (10.5%)	0.0 (0.0%)	
Middle school (n=7)	2.0 (28.6%)	4.0 (57.1%)	1.0 (14.3%)	0.0 (0.0%)	
High school (n=21)	10.0 (47.6%)	6.0 (28.6%)	4.0 (19.0%)	1.0 (4.8%)	
University (n=26)	10.0 (38.5%)	7.0 (26.9%)	7.0 (26.9%)	2.0 (7.7%)	
Father's education					0.8361¹
None (n=1)	1.0 (100.0%)	0.0 (0.0%)	0.0 (0.0%)	0.0 (0.0%)	
Primary school (n=11)	3.0 (27.3%)	5.0 (45.5%)	3.0 (27.3%)	0.0 (0.0%)	
Middle school (n=10)	4.0 (40.0%)	4.0 (40.0%)	2.0 (20.0%)	0.0 (0.0%)	
High school (n=26)	10.0 (38.5%)	11.0 (42.3%)	4.0 (15.4%)	1.0 (3.8%)	
University (n=28)	15.0 (53.6%)	6.0 (21.4%)	5.0 (17.9%)	2.0 (7.1%)	
Family income					0.7361¹
Low (n=15)	9.0 (60.0%)	4.0 (26.7%)	2.0 (13.3%)	0.0 (0.0%)	
Medium (n=53)	20.0 (37.7%)	19.0 (35.8%)	11.0 (20.8%)	3.0 (5.7%)	
High (n=8)	4.0 (50.0%)	3.0 (37.5%)	1.0 (12.5%)	0.0 (0.0%)	
Number of siblings					0.6672²
Mean (SD)	2.3 (1.5)	2.6 (1.1%)	2.2 (1.8%)	2.4 (1.4%)	
Is dentistry stressful?					0.1191¹
Yes	28.0 (47.5%)	20.0 (33.8%)	10.0 (16.9%)	1.0 (1.6%)	
No	5.0 (29.4%)	6.0 (35.2%)	4.0 (23.5%)	2.0 (11.7%)	
Total (n=76)	33.0 (43.4%)	26.0 (34.2%)	14.0 (18.4%)	3.0 (3.9%)	

SD: Standard deviation, ¹Chi-square test, ²Kruskal-Wallis test

and 9 exhibited high levels. In terms of life satisfaction, 26 participants exhibited moderate levels, 13 exhibited high levels, and three exhibited very high levels. Nevertheless, it was observed that 36 participants exhibited low levels of life satisfaction. A study conducted in India reported that 62.1% of dental internship students exhibited moderate resilience levels. Furthermore, the study identified a significant correlation between personal academic success and perseverance and resilience. This indicates that there may be a significant correlation between students' perceptions of the educational environment and their personal resilience levels.²⁷

A study examining the psychological resilience of medical and dental students in Saudi Arabia revealed that 66.3% of students exhibited below-average resilience, while 24.7% demonstrated below-average life satisfaction. The study revealed that resilience levels were higher among female dental students and students with higher family incomes compared to other subgroups. The findings indicate that students with higher resilience are happier and more satisfied. Consequently, it is recommended that programs be developed to enhance students' resilience.²⁸ In a dental school in Thailand, it was found that only 8% of students exhibited resilience levels above the normal range.²⁹ This study corroborates the findings of another study which demonstrated that first-year Turkish health sciences students exhibited low psychological resilience.³⁰ The results demonstrate that resilience levels vary among students from different countries and disciplines, with some groups

exhibiting low resilience levels. Consequently, the necessity of strategies to enhance students' psychological resilience is underscored.

The study found no significant correlation between students' ages, genders, and academic years and psychological resilience. Nevertheless, divergent findings have emerged in the literature regarding the variation of psychological resilience by gender.^{14,30} No statistically significant relationship was found between factors such as gender, parental education level, health status, family income level, number of siblings, and life satisfaction and psychological resilience. A study conducted in France revealed that psychological resilience increased with age, education level, and income level.³¹ Conversely, it has been posited that as students' psychological resilience and basic satisfaction increase, their capacity to adapt to university life also increases. It is posited that the capacity to cope with challenging mental and environmental conditions encountered during university life facilitates the adaptation of students to university life.³²

It is proposed that high resilience is associated with stronger academic performance in dental faculties and provides protection against emotional exhaustion. Well-being is negatively correlated with burnout and stress, and positively correlated with resilience.^{33,34} In light of these findings, it becomes clear that the development of various interventions and programmes designed to support students' psychological resilience in universities is a necessity. Education seminars and workshops can enhance students' stress management skills, improve their emotional well-being, and facilitate

**Table 3. Analysis results comparing psychological resilience scale results with various demographic and socioeconomic parameters**

Characteristic	Low	Medium	High	p-value
Gender				0.3401 ¹
Female (n=41)	25.0 (61.0%)	10.0 (24.4%)	6.0 (14.6%)	
Male (n=33)	19.0 (57.6%)	12.0 (36.4%)	2.0 (6.1%)	
Mother's education				0.9201 ¹
None (n=3)	2.0 (66.7%)	0.0 (0.0%)	1.0 (33.3%)	
Primary school (n=19)	12.0 (63.2%)	5.0 (26.3%)	2.0 (10.5%)	
Middle school (n=6)	3.0 (50.0%)	2.0 (33.3%)	1.0 (16.7%)	
High school (n=20)	12.0 (60.0%)	6.0 (30.0%)	2.0 (10.0%)	
University (n=26)	15.0 (57.7%)	9.0 (34.6%)	2.0 (7.7%)	
Father's education				0.9131 ¹
None (n=1)	1.0 (100.0%)	0.0 (0.0%)	0.0 (0.0%)	
Primary school (n=11)	6.0 (54.5%)	3.0 (27.3%)	2.0 (18.2%)	
Middle school (n=10)	6.0 (60.0%)	2.0 (20.0%)	2.0 (20.0%)	
High school (n=25)	14.0 (56.0%)	9.0 (36.0%)	2.0 (8.0%)	
University (n=27)	17.0 (63.0%)	8.0 (29.6%)	2.0 (7.4%)	
Family income				0.4011 ¹
Low (n=15)	8.0 (53.3%)	5.0 (33.3%)	2.0 (13.3%)	
Medium (n=51)	29.0 (56.9%)	17.0 (33.3%)	5.0 (9.8%)	
High (n=8)	7.0 (87.5%)	0.0 (0.0%)	1.0 (12.5%)	
Number of siblings				
Mean (SD)	2.3 (1.5)	2.6 (1.1)	2.2 (1.8)	
Is dentistry education stressful?				
Yes	35 (59.3%)	20 (33.8%)	4 (6.7%)	0.6672 ²
No	9 (52.9%)	2 (3.3%)	4 (23.5%)	0.1311 ¹

SD: Standart deviation, ¹Chi-square test, ²Kruskal-Wallis test**Table 4. Responses of students to questions regarding their perceptions of the faculty and dental education**

	Yes	No
1. First impression of the faculty is positive/happy	69 (90.8%)	7 (9.2%)
2. The physical structure and number of classrooms and laboratories are sufficient	71 (93.4%)	5 (6.6%)
3. The faculty building is very old and not suitable for modern conditions	3 (3.9%)	73 (96.1%)
4. The student affairs department is very inadequate and very slow	8 (10.5%)	68 (89.5%)
5. The life of education and training in the faculty of dentistry seems very tiring and expensive	52 (68.4%)	24 (31.6%)
6. Do you find dental education stressful?	59 (77.6%)	17 (22.4%)

their adaptation to university life in a healthier manner. Consequently, universities that implement programmes designed to enhance students' psychological well-being can enhance their students' success and contribute to a more positive university experience. In evaluating students' responses to questions measuring their perceptions of dental education, over 90% of respondents expressed a positive impression of the faculty. They found the physical structure, number and capacity of classrooms and laboratories, and student services to be sufficient. In contrast, another study

reported lower satisfaction rates (56.3%) and a higher proportion of students who perceived the buildings to be old and the lecture halls to be overcrowded.¹⁷

It is of the utmost importance to carefully consider the choices of students who initially hold negative impressions of the faculty. It would be beneficial to analyse the changes in these students' opinions in later classes.

Conversely, 68.4% of the students indicated that dental education is costly and intense, and 77.6% found it stressful. A few studies have indicated that dental students experience higher levels of stress, burnout, anxiety, and depression compared to the general population.³⁵⁻⁴⁰ In a recent study evaluating the factors influencing the career choices of Turkish dental students, it was reported that 78.3% of the students found the education process to be highly stressful. The study emphasized the need to identify the problems faced by the students in order to reduce their stress and anxiety.⁴¹ A review of stress levels and risk factors in dental students revealed that stress was associated with tendencies towards perfectionism, fear of failure, exam stress, curriculum intensity, workload, and limited free time.⁴⁰ Nevertheless, this study did not identify a significant correlation between dental education-related stress and students' life satisfaction or psychological resilience. The lack of statistical significance may be attributed to the relatively small sample size.



Limitations

The limited sample size may limit the generalisability of the results and negatively affect the statistical significance. The utilisation of a general educational environment assessment tool that incorporates the perspectives of students from diverse faculties or geographical regions could enhance the generalisability of the data. Furthermore, the study may have failed to consider the influence of factors such as students' personality traits, family relationships, past experiences, or external factors on life satisfaction and psychological resilience.

CONCLUSION

Although students tend to hold positive views of their faculties, they perceive dental education to be costly and stressful. Given that students exhibit low life satisfaction and moderate to weak psychological resilience, it is necessary to review educational programmes and support systems. The implementation of measures for stress management and psychological support is of paramount importance if academic success is to be enhanced and a healthy learning environment established.

ETHICAL DECLARATIONS

Ethics Committee Approval

The study was carried out with the permission of Ethical Committee of Niğde Ömer Halisdemir University (Date: 14.12.2023, Decision No: 2023/104).

Informed Consent

All patients signed and free and informed consent form.

Referee Evaluation Process

Externally peer-reviewed.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Financial Disclosure

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Author Contributions

All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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